REMARKS

I. Introduction

Claims 16-25 are pending in the present application. Claims 16, 21 and 22 have been amended. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants note with appreciation the acknowledgment of the claim for foreign priority and the indication that all copies of the certified copies of the priority documents have been received from the International Bureau.

II. Rejection of Claims 16, 19, and 21-25 Under 35 U.S.C. § 103(a)

Claims 16, 19 and 21-25 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nally (U.S. Patent No. 5,544,816) in view of Rhoades (U.S. Patent No. 4,995,949). Applicants respectfully submit that claims 16, 19 and 21-25 are patentable over the combination of Nally and Rhoades for the following reasons.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Amended claim 16 recites a "fuel injector for use in projecting directly into a combustion chamber of an internal combustion engine, the fuel injector including . . . a downstream valve end including a component and a fuel outlet, wherein the fuel outlet includes at least one discharge orifice of the component, . . . the component includes a coating

around the at least one discharge orifice, including at least in an immediate exterior of an outlet area of the at least one discharge orifice, and the coating includes a layer containing fluorine." The Examiner admits that "Nally et al. do not disclose the component including a coating as recited." However, the Examiner asserts that Rhoades "teaches a method of making a fuel injector in which the fuel injector comprises discharge orifices which are coated with PTFE which contains fluorine in order to attain precise flow resistance." Applicants respectfully submit that the combination of Nally and Rhoades does not disclose all of the limitations of amended claim 16, as explained below.

Initially, Applicants note that neither Nally nor Rhoades discloses or suggests "a coating around the at least one discharge orifice, including at least in an immediate exterior of an outlet area of the at least one discharge orifice," as recited in claim 16. Rhoades relates generally to "electrochemical, chemical or electrical discharge machining (material removing techniques) or plating or coating (material building techniques) upon a part to provide a constant, predetermined rate of flow of the ***processing fluid used in said machining, plating or coating process***, through an orifice, where the dynamic rate of the processing fluid is directly related to the target rate of flow through the orifice of the fluid of ultimate intended use." (Col. 3, l. 53-62). Rhodes specifically notes that "electrochemical, chemical and electrical discharge machining are widely employed . . . for machining and finishing operations on **internal shapes**, bores, apertures, complex three dimensional shapes, and other difficult operations." (Col. 4, lines 44-49). Additionally, Rhoades states that "[f]or electroplating, electroless plating and vapor deposition in applications apropos to the present invention, the workpiece must be held in an apparatus such that **the processing fluid flow is confined to passage through the orifice(s) to be plated or coated and sized**." As can be seen from above discussions, Rhoades relates to methods of finishing the ***inner surface*** of orifices, and Rhoades simply does not teach or suggest coating of an immediate exterior of an outlet area of the orifice, as recited in claim 16.

For the foregoing reasons, it is respectfully submitted that the combination of Nally and Rhoades does not disclose, or even suggest, all of the features of the claim 16. Accordingly, claim 16 and its dependent claims 19 and 21-25 are allowable over the combination of Nally and Rhoades.

Independent of the above, the combination of Nally and Rhoades does not disclose, or even suggest, that the coating is provided in **a ring shape** around the at least one discharge orifice on a downstream exterior surface of the component, as recited in claim 21. For this additional reason, claim 21 is allowable over the combination of Nally and Rhoades.

Furthermore, the combination of Nally and Rhoades does not disclose, or even suggest, that the coating is provided over **an entire surface** of a downstream exterior surface of the component, as recited in claim 22. For this additional reason, claim 22 is allowable over the combination of Nally and Rhoades.

III. Rejection of Claim 17 Under 35 U.S.C. § 103(a)

Claim 17 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nally (U.S. Patent No. 5,544,816) in view of Rhoades (U.S. Patent No. 4,995,949), and in further view of Fedorovich (Soviet Union Published Patent Application No. 775364B). Applicants respectfully submit that claim 17 is patentable over the combination of Nally, Rhoades and Fedorovich for the following reasons.

Claim 17 depends on claim 16. As stated above in connection with claim 16, the combination of Nally and Rhoades does not disclose, or even suggest, all of the features of parent claim 16. Fedorovich does not cure the deficiency of the combination of Nally and Rhoades as applied against parent claim 16, i.e., Fedorovich does not teach or suggest coating of an immediate exterior of an outlet area of the orifice, as recited in parent claim 16. Accordingly, it is respectfully submitted that dependent claim 17 is patentable over the combination of Nally, Rhoades and Fedorovich.

IV. Rejection of Claim 18 Under 35 U.S.C. § 103(a)

Claim 18 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nally (U.S. Patent No. 5,544,816) in view of Rhoades (U.S. Patent No. 4,995,949), and in further view of Otomo (U.S. Patent No. 4,620,995). Applicants respectfully submit that claim 18 is patentable over the combination of Nally, Rhoades and Otomo for the following reasons.

Claim 18 depends on claim 16. As stated above in connection with claim 16, the combination of Nally and Rhoades does not disclose, or even suggest, all of the features of parent claim 16. Otomo relates using a curtain flow method to coat and bake gasket sheet materials to improve their heat resistance. According to Otomo, "[i]n the curtain flow coating method, a sheet of gasket material passes through a curtain-like filmy flow of a predetermined width of the coating agent. Once applied, the coating is then baked in a furnace to form coated films on the surfaces and sheared faces of the gaskets." (Col. 2, lines 4-9). Therefore, Otomo does not cure the deficiency of the combination of Nally and Rhoades as applied against parent claim 16, i.e., Otomo does not teach or suggest coating of an immediate exterior of an outlet area of the orifice, as recited in parent claim 16. Accordingly, it is respectfully submitted that dependent claim 18 is patentable over the combination of Nally, Rhoades and Otomo.

V. Rejection of Claim 20 Under 35 U.S.C. § 103(a)

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nally (U.S. Patent No. 5,544,816) in view of Rhoades (U.S. Patent No. 4,995,949), and in further view of Komaroff (U.S. Patent No. 4,397,283). Applicants respectfully submit that claim 18 is patentable over the combination of Nally, Rhoades and Komaroff for the following reasons.

Claim 20 depends on claim 16. As stated above in connection with claim 16, the combination of Nally and Rhoades does not disclose, or even suggest, all of the features of parent claim 16. Komaroff relates to an ignition onset sensor for internal combustion engines. Komaroff does not cure the deficiency of the combination of Nally and Rhoades as applied against parent claim 16, i.e., Komaroff does not teach or suggest coating of an immediate exterior of an outlet area of the orifice, as recited in parent claim 16. Accordingly, it is respectfully submitted that dependent claim 20 is patentable over the combination of Nally, Rhoades and Komaroff.

VI. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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